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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/698,722

10/31/2003

Peter Van Voris

TMG 2-001-3-3

1568

266 7590 01/30/2009

MUELLER AND SMITH, LPA  
MUELLER-SMITH BUILDING  
7700 RIVERS EDGE DRIVE  
COLUMBUS, OH 43235

EXAMINER

LEVY, NEIL S

ART UNIT

PAPER NUMBER

1615

MAIL DATE

DELIVERY MODE

01/30/2009

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/698,722	<b>Applicant(s)</b> VORIS ET AL.	
	<b>Examiner</b> NEIL LEVY	<b>Art Unit</b> 1615	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 30 September 2008.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-20, 23-26 and 29-35 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20, 23-26 and 29-35 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

### **DETAILED ACTION**

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

#### ***Claim Rejections - 35 USC § 103***

Claims 1-20,23- 26,29-35stand rejected under 35 U.S.C. 103(a) as being unpatentable over

KODAMA et al 5747579 and VAN VORIS et al 5801194 in view of KNUDSON 4849006 & further in view of Beall et al5730996.

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The rejection of record is maintained, Beall et al cited to further show the use of colloidal ex-foliated clays to be known in the art, & as advantageous pesticidal carriers.

Kodama , regardless of applicant's arguments to the focus of their invention being soil treatment, also specifies an object of their invention is to prevent insect invasion of structure, such as (col. 1, lines 32-43) by applying their compositions to building materials , inclusive of wood (col. 3, lines 23-36). Soil application (col. 4, lines 12-17) under the floor

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constitutes the instant methods of applying a barrier to prevent pest infiltration. The use of a polymer

Component with a bead is not addressed.

Van Voris uses clays or carbon black to increase pesticide concentration in a polymeric

barrier (col. 6, lines 50-58). The instant clays were not elaborated as exfoliated forms.

Knudson teaches controlled release of pesticide is achieved by adsorbing onto colloidal clays (column 2, lines 36-56) of smectite clays, bentonite (column 3). Particle size is not given, however, colloidal is within nanometer size. Combination with active is shown at examples. Since the clays are the instant, their features are also of size, shape of the smectite, montmorillonite, clays .

BEALL shows the instant (col. 30, note 1, -- 44+ microns) size colloidal clays, intercalated with pesticides, & naturally or readily exfoliated (col. 5, lines 43-57, col. 8, lines 5-33). Smectite clays, (fig. 4), Montmorillonite (fig. 6) or vermiculite, illite, are shown as equivalent at col. 10, lines 32-46. The platelets (col. 4, top) are separated by 5-100 angstroms, thus they fall within colloidal size; nanoscale, as stated @ col. 24, line 40. These exfoliated platelets are used to disperse in carriers to provide solid pesticides (col. 4, lines 50-55) of the instant pesticides

(col. 21) such as pyrethroids-cypermethrin. The advantage of the intercalated pesticide is high concentration of pesticide(col. 18,lines 59—65).

Beall shows improved exfoliated clays area [prepared by heating to increase pesticide loading (col. 13, top). Examples include (col.29 ) Dicamba heated to 85 C & Trifluralin dried & heated @ 67 C. Example 12 a shows concomitant heating of clays & pesticide.

Insertion of Beall's, or heating of Knudson's carrier clays of pesticide would have provided higher concentration, greater efficacy, thus, longer duration of effects, if applied to Van Voris polymeric barriers, instead of the carbon black or clays Van Voris recited.

It would have been obvious to a person of ordinary skill in the art at the time the invention was made, desiring to utilize a pestidal barrier for long term protection, to make one of KODAMA & VAN VORIS, modified to optimize protection of the desired material by utilizing a colloidal carrier, as taught by Knudson to enhance controlled release of a pesticide.Beall shows the advantages with the instant exfoliated pyrethroid intercalated clays, constituting the claimed beads.

The selection of each ingredient is a result effective parameter chosen to obtain the desired effects. It would be obvious to vary the nature of

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each ingredient to optimize the effects desired such as length of time for desired protection, item to be protected, target species, and the use of ingredients for the functionally for which they are known to be used is not a basis for patentability.

The instant claims fail to specify any particular time, temperature, or benefits of the heating now claimed, for beads of any size.

It has not clearly been established by an objective showing of some additional unusual and/or unexpected result that the preparation of the particular barrier form, delivery method or target provides any greater level of prior art criticality or expectation as claimed.

### ***Response to Arguments***

Applicant's arguments filed 9/30/08 have been fully considered but they are not persuasive. Applicant argues & provides declaration, showing Knudson does not specify heating. However, in the combination of references used, we find Beall provides advantages to heating of the instant clays & pesticides, & would be evident to the formulator to prepare barriers using the heated materials in order to increase the loading & ultimately the length of useful barrier lifetime.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to NEIL LEVY whose telephone number is 571-272-0619. The examiner can normally be reached on Tuesday-Friday, 7 AM to 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, MICHAEL WOODWARD can be reached on 571-272-8373. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/NEIL LEVY/  
Primary Examiner, Art Unit 1615

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